

Potential for  
Energy Conservation  
in the United States:  
1974-1978

A Summary Report of the  
National Petroleum Council

September 10, 1974



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National Petroleum Council**

**September 10, 1974**

Maurice F. Granville, Chairman  
Committee on Energy Conservation

Robert C. McCay, Chairman  
Coordinating Subcommittee  
of Committee on Energy Conservation

NATIONAL PETROLEUM COUNCIL

H. A. True, Jr., *Chairman*  
Robert G. Dunlop, *Vice Chairman*  
Vincent M. Brown, *Executive Director*

*Industry Advisory Council*  
to the

U.S. DEPARTMENT OF THE INTERIOR

Rogers C. B. Morton, *Secretary*  
Jack W. Carlson, *Asst. Secretary for Energy and Minerals*

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## PREFACE

In December 1972, the National Petroleum Council, an officially established industry advisory committee to the Secretary of the Interior, published *U.S. Energy Outlook--A Summary Report*, as well as an expanded full report of the National Petroleum Council's Committee on U.S. Energy Outlook. The reports of the several task groups of that Committee were issued subsequently. In July 1973 (see Appendix A), the Secretary of the Interior requested that:

In order to further assist us in assessing the patterns of future U.S. energy use, the National Petroleum Council is requested to conduct a study which would analyze and report on the possibilities for energy conservation in the United States and the impact of such measures on the future energy posture of the Nation.

The National Petroleum Council responded to the request of the Secretary of the Interior with the establishment of a Committee on Energy Conservation under the chairmanship of Mr. M. F. Granville, Chairman of the Board, Texaco Inc. A Coordinating Subcommittee to assist the Committee was formed with Mr. R. C. McCay, Vice President, Texaco Inc., serving as chairman. Mr. C. King Mallory, Deputy Assistant Secretary for Energy and Minerals, U.S. Department of the Interior, is serving as cochairman of both the above-mentioned committees.

Under the Coordinating Subcommittee, six task groups were created: four task groups (Industrial, Residential/Commercial, Transportation and Electric Utility) representing the end-use sectors; a Patterns of Consumption/Energy Demand Task Group; and a Consumer Task Group. (Committee Rosters appear as Appendix B.) The efforts of these task groups were directed to a time frame, 1974 to 1985 and beyond, where deemed appropriate or significant. This time frame was further refined into Phase I covering the years 1974 to 1978 and Phase II covering the years 1979 to 1985 and beyond.

This summary report, *Potential for Energy Conservation in the United States: 1974-1978*, embraces Phase I as defined and will be followed by a full report later in the fall of 1974. The Committee, the Coordinating Subcommittee and the six task groups have begun work on Phase II as defined, and will prepare a report thereon for submittal early in 1975.

On the four end-use sector task groups, wide industry (non-petroleum) participation and support was solicited and has been utilized. At the specific request of the Committee, the recommendations and conservation potentials identified by these task groups have been transmitted to appropriate industry or trade associations for their review and comment. (See Appendix C for complete listing.) The comments of these associations are being carefully considered by the Committee and will be incorporated in the full report at the Committee's discretion. If the report does not fully reflect the views on energy conservation of the industry or trade association, the Committee urges submittal of such views directly to the Secretary of the Interior for his consideration.

In order to provide a "benchmark" against which to measure the effects of energy conservation proposals from the end-use sector task groups, the Patterns of Consumption/Energy Demand Task Group has calculated demand projections. The Federal Energy Administration (FEA--formerly FEO) asked that the assumptions on price for primary energy contained in the original study request be expanded. In a letter of April 10, 1974 (see Appendix D), the FEA suggested that cost induced demand reductions be considered for two additional cases--an instantaneous increase in real primary costs of 100 percent and of 150 percent over the 1970 levels occurring in 1974.\* These projections are in addition to the demand projections presented in *Energy Conservation in the United States: Short Term Potential, 1974-1978--An Interim Report*. The two cases requested by the FEA have been developed in an independent evaluation by the task group members and subsequently compiled by the NPC staff in isolation.

A sixth task group, the Consumer Task Group, was formed as a result of the belief shared by both the NPC and the Department of the Interior that consumer and public interest groups should be represented in and contribute to the preparation of this study. This task group has directed its thought and efforts to a consideration of the impact of the suggested energy conservation measures on the public and society generally.

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\* *Editor's Note:* The phrase *Primary Energy Costs* is used throughout this report. The following definition is applicable to all references. Primary energy is meant to be oil and gas at the wellhead, coal and uranium at the minemouth, and hydroelectric and geothermal at the source. The assumed cost increases at the primary level would be reflected in much smaller percentage increases (about one-third on average) at the consumer level where the demand elasticity to price change would be estimated.

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## INTRODUCTION

In the aftermath of recent international events which have led to the Nation's awareness of potential energy shortages, it would appear evident, indeed obvious, that contingency plans must be formulated immediately to provide for the eventuality of recurring shortages. One immediate step toward the solution is to cut back the use of all forms of energy. This report addresses itself to many alternatives for decreasing energy use and increasing its efficiency of utilization: some of these will occur naturally because of increased prices and the scarcity of available energy; some will be achieved voluntarily by the public's response to energy conservation pleas; some will require changes in governmental policy; and others may fall within one of these categories but will be achievable only after extensive research and development and cannot be implemented in the near term. All of these measures have value in that they achieve the goal of energy conservation. However, the answer is not that simple. Reductions are a "must," but it may be difficult to distinguish between essential and capricious uses of energy. Many energy consuming modes and devices which were once considered luxuries have now become integrated into consumption patterns and, at least for the short term, may be classified as essential uses unless other trade-offs are recognized and accepted by the public.

Price plays a major role in the consumer's perceived value of adopting a conservation measure. Given the significant increases in the price of energy over the past year, reinforced by the threat of a scarcity of supply, the consumer or other user has adopted different perceptions of energy values. Although there is insufficient field information to determine accurately price/demand elasticities, demand levels of the past few months definitely indicated that there has been some lessening in demand as a function of price.

There is a significant problem in assessing the real impact of conservation measures because they are a mixture of responses including, but not limited to, market clearing prices, threat of scarcity and ethical concern about the level of energy usage. Given the market as it is comprised, it is impossible to identify what degree of conservation will occur naturally as a result of price. Thus, it is very difficult to determine what options are feasible and what actions should be taken to reduce energy consumption. While energy conservation is important and essential, any program must be integrated into other national goals such as economic growth, social well-being and environmental clean-up. For instance, programs such as the Clean Air Act of 1970, the federal highway system and certain zoning regulations, all conflict with energy conservation. The impact of these programs on the goals of the Nation must be carefully evaluated before making any trade-offs.

Whatever policy decisions are made, they should *not* erode the public's freedom of choice in selecting options. Energy consumption patterns are regionalized such that an all encompassing policy is

certain to create hardships for certain sections or segments of the Nation and the economy.

The concept and policy of energy conservation involves a substantially different outlook concerning energy use on the part of the individual, and the United States as a whole, if it is to be effective. Present use patterns have evolved over a period of years within a framework of economics and incentives that today are rapidly changing or outmoded. What IS Important IS the realization that our present energy environment is different and will probably continue to move even further from the previous norms.

The following discussion is predicated upon energy conservation as defined within the following parameters: (1) measures that increase the *efficiency of utilization* of energy without affecting the services provided and (2) measures that *reduce the consumption* of energy by reducing the level of services provided.

The United States is now experiencing a shortage of domestically produced, environmentally acceptable fuels. One reason for this shortage is the increased rate of energy demand growth since the mid-1960's, coupled with the simultaneous slowdown of domestic supply expansion, which resulted in an increasing inability to meet unrestricted demands with available indigenous supply. The outcome has been a rapidly increasing dependence on foreign oil supplies, a situation which was brought into sharp focus by the Arab oil embargo of October 1973.

As vital as energy is to the Nation, the public has been generally unaware of potential energy shortages and the need to conserve energy resources prior to the Arab oil embargo, even though warning signs appeared for many years. Despite the actual shortages experienced during the embargo, some responsible individuals have adhered to the belief that no real disparity exists between supply and potential demand. However, the facts adequately support the growing concern over energy shortages within the United States.

Domestic oil production currently supplies about two-thirds of the Nation's oil demand, and domestic production is declining. Gradual integration and the increased use of other sources of energy into and by the distribution and consumption system have encountered social and environmental problems and thus delays. Consequently, an energy balance distortion has evolved because of which the Nation is becoming, indeed has become, increasingly dependent on foreign-based supplies to fulfill its requirements. In the future, maintaining a healthy national economy, full employment and reasonable environmental standards will require national goals and priorities on energy which must include both conservation and expansion of domestic energy supplies.

The foregoing observation does not imply any lack of natural energy resources within the United States--they are still abundant. The problem inherent in the expansion of domestic energy supplies is, however, one of finding economically feasible and environmentally acceptable ways of locating, developing and utilizing such

resources, thus introducing them into existing supply, distribution and consumption channels. Such ways must be found.

Restoration of a more appropriate balance between u.S. domestic energy demand and energy supply will require conservation and an awareness and acceptance of a "conservation ethic" by the American public. But, energy conservation alone is incapable of restoring such a balance. Only a comprehensive national energy policy incorporating *all* aspects of supply and demand considerations is capable of doing so.

The actual magnitude of energy conservation achieved will depend on prices and, furthermore, on the rate of development of additional sources of energy and on the inter-substitutability of fuels, which in turn will depend on policies, laws, regulations and government actions at all levels, particularly that of the Federal Government. The higher price of energy generally has caused a major increase in the number of options to expand energy supplies. Likewise, there are now a large number of economically rational responses on the demand side. It now *pays* to use energy more efficiently, and perhaps to modify our energy life-style.



## SUMMARY

Any meaningful discussion of energy conservation must be predicated upon an understanding by the public of how energy is supplied and distributed to individual consumers. Discussion of the acceptability or desirability of energy conservation measures must be based on--in fact depends upon--public awareness that there is a common need or motivation to curtail inefficient consumption of energy at all levels. Conservation associated with denial or with the substitution of less desirable goods or services will generally elicit a negative public response. However, conservation can and should also carry the connotation of more efficient and economic usage of energy entailing change in utilization patterns.

Excessive energy consuming patterns and the substitution of energy for manpower have been encouraged by various governmental policies and by a changing economy and society. This evolving change in consumption patterns, however desirable or undesirable, has been intensified by extensive advertising and other programs aimed at promoting energy consumption in a wide variety of forms.

Growing energy consumption can be directly related to the substantial changes that have evolved in the life-style of our Nation. Productivity in industry has increased with the growing substitution of machines for labor, resulting in fewer man-hours and shorter working weeks. Alternative activities now consume the time formerly spent at work, and living patterns of the American worker have changed drastically. Migration from inner cities to the suburbs has taken place. New transportation patterns have evolved, as have new consumer buying habits. All of these factors have contributed to the unprecedented growth of this country's economy and, importantly, the level of energy consumption in the United States.

### ENERGY CONSUMPTION AND DISTRIBUTION PATTERNS

Based on current levels of technology, energy for Americans is mainly associated with and related to crude oil products, natural gas and coal. Hydropower, geothermal, solar energy and nuclear energy have contributed to a much smaller extent. Oil and natural gas have assumed the major role in supplying energy to the Nation. All phases of contemporary society are dependent on hydrocarbon resources, principally oil and natural gas.

Historically, the production of energy in the United States has been a function of private industry under our free-enterprise system. However, government has become involved to the extent that the private sector is now overlaid with a complex set of legislation and regulations ranging from tariffs and fiscal policies to intervention by regulatory bodies of various kinds. Public institutions control, in often conflicting ways, such diverse issues as price, environmental degradation, safety, consumer protection and industrial concentration. The supply side of the energy sector has evolved into a classic example of a "mixed" private/public economy.

The demand side of the energy sector differs in that historically there has been less government involvement and a lower level of general public concern.

It is difficult to find evidence of an energy policy relating various government actions one to another. However, throughout our history of public involvement in energy matters, there has been, with certain notable exceptions, a general reliance on private-market solutions and on a belief that low-cost energy is good for the health and growth of the economy. Energy supply and demand in respect of any energy form have rarely been a focus of public interest.

## FINDINGS

Analyses of potential energy conservation measures or procedures in the immediate short-term period through 1978 were carefully developed by the end-use sector task groups--Industrial, Residential/Commercial, Transportation and Electric Utility. The evaluations developed by these study groups are briefly stated below.\*

### Industrial

Seven industries--iron and steel, aluminum, chemical, petroleum, agriculture and food processing, paper and automobile manufacturing--accounting for approximately 75 percent of the energy used by U.S. industry in 1972, were evaluated by the task group. The results are presented in the following appraisal:

- Increased fuel costs and potential shortages are the most important incentives for industry to conserve. Savings evolving from this awareness will result primarily from conscious energy management programs which include existing operations, new equipment and process designs.
- Scrap recycle in the metal industries is an important and significant source of energy savings. At some levels, government policy and foreign trade relations may be in conflict with increased recycling.
- Constraints in achieving energy conservation goals are the limitations on availability of capital and technical manpower and the restrictions of environmental standards.

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\* *Editor's Note: Aggregation of Energy Conservation Potential.* The following sections present estimated future energy savings. However, the reader is cautioned against attempting to aggregate these estimated savings for the purpose of arriving at an overall savings potential for the Nation. The assumptions made, the options available and the ranges of estimated savings set forth are either interdependent or mutually exclusive and, therefore, non-additive in any meaningful way.

- One major area common to most industry is steam generation and use. Emphasis should be placed on more efficient *total system design* such that the maximum work output is captured.
- In the 1974-1978 period, at least an average 10-percent savings in energy usage *per unit of output* can be accomplished in the industrial sector. The percentages vary from 5 to 20 percent, depending on the industry evaluated. Intensification of programs designed to exchange information and technology throughout all industries could effect greater energy savings. This exchange is especially important to those highly decentralized small-scale industries where technical manpower and expertise may be lacking, and in certain industries, such as agriculture, where there are many independent units. Within this portion of the industrial sector, independent identification of more efficient energy utilization is difficult to accomplish.

### Residential/Commercial

Although higher energy prices will result in actions to conserve energy, a nationwide energy conservation program coupled with a high level of communication is needed to obtain broad, continuing savings in this sector.

Of the two broad subdivisions of the residential sector--existing construction and new construction--existing construction consumes about 98 percent of all residential energy and is, in the short term, the area of greatest energy conservation potential. The three areas offering greatest potential for near-term energy savings, together with examples of specific action, are:

- Living Habits/Life-Styles
  - Lower thermostat setting in heating season
  - Higher thermostat setting in cooling season
  - Lower water heater temperature.
- Insulation
  - Ceiling insulation
  - Weatherstripping and caulking
  - Storm doors and storm windows.
- Heating/Cooling
  - Furnace tune-up
  - Air conditioner tune-up.

In the new construction market, revisions in building codes are needed to improve energy efficiency in new residences.

In the commercial sector, two conservation actions would account for more than one-half of the potential savings achievable by 1978. These are:

- Maximum temperatures in the heating season of 68°P in apartments and hotels/motels, and 6Sop in other establishments (hospitals and nursing homes excepted) during occupied hours
- Temperatures of Sop and IOoP below maximum heating season temperatures during unoccupied hours.

Given adequate financial incentives, such as low-interest loans and investment tax credits, a high level of implementation of conservation actions requiring investment by residential and commercial owners can be expected.

### Transportation

In the transportation sector, the areas offering major conservation opportunities for potential saving, in stated relative order of importance, are:

- Highway (Passenger Cars)
  - More small cars
  - Increased car pooling
  - Modified exhaust emissions and gasoline regulations
  - Improved auto design
  - Reduced speed limits
  - Improved vehicle maintenance.
- Airways
  - Reduced flights to increase load factor
  - Improved operating efficiencies.

Some of the energy savings in these areas will result from increased energy prices, others from voluntary action, and still others will require new or revised regulations.

Total railway, waterway, mass transit, pipeline and other miscellaneous transportation uses account for less than 20 percent of the energy consumed by the transportation sector, thus offering a more limited potential for energy conservation over the short term.

Mass transit systems will not contribute significantly to conservation in the near-term period. Evaluation of such systems should commence immediately in order to *have longer-term effect*.

Individual choice in transportation should be maintained, but a compromise must be effected wherein the individual motor fuel-burning unit becomes more efficient and at the same time the individual exercises more judicious choice in the utilization of the unit.

### Electric Utilities

Under the most strenuous energy conservation efforts, savings in fuel used for electric power generation in 1978 could equal some 5 percent of the 1972 energy used for power production. A major part of these savings would depend largely on substantial changes in existing laws and regulations.

About half of the potential fuel savings would depend on elimination of the proposed requirement for closed-cycle cooling. The remaining possible contributors to potential energy savings in descending order are:

- Deferring requirements for stack gas sulfur scrubbing systems.
- Optimum use of the most efficient power generation equipment.
- Modification of new loss of coolant safety regulations governing nuclear plants, voltage reductions and peak load shifts.

Increases in the price of primary energy will decrease the consumption of electricity in the consuming sectors but will have only a small effect on the efficiency of electrical generation by 1978.

If all coal/oil convertible capacity were switched to coal, annual oil savings in 1978 could be 40 to 50 percent of oil consumed by electric utilities in 1972.

### Price/Demand Considerations

Optimal reduction of energy demand growth will result from market responses to price increases; clearer and more stable market signals on supply and demand with less market distortion due to certain public policies; incentives and disincentives to encourage less energy intensive practices; and a broader public awareness of the need for conservation (i.e., a national "conservation ethic").

Results of the calculations in response to the PEA request

for a consideration of two cases of increased prices--an instantaneous increase in real primary energy cost of 100 percent and 150 percent over 1970 price levels but occurring in 1974--are presented in Table 1.\* This table estimates the reduction in energy consumption that would result from these price changes. Energy conservation opportunities reducing demand patterns and improving the efficiency of energy utilization are more broadly explored by the end-use sector task groups.

TABLE 1  
 1978 ESTIMATED END-USE CONSUMPTION RESPONSE TO INCREASES IN THE PRICES OF PRIMARY ENERGY\*-COMPARISON OF ACTUAL 1972 CONSUMPTION AND 1978 TRENDS-CONTINUEt BASE CASE

End-Use	Consumption (Quadrillion BTU's)		1978 Trends- Continue <i>Versus</i> 1972	Percent Change In Consumption			
	1972 Actual	1978 Trends- Continue		100 Percent Primary Price Increase		150 Percent Primary Price Increase	
				<i>Versus</i> 1972	<i>Versus</i> Trends- Continue	<i>Versus</i> 1978	<i>Versus</i> Trends- Continue
Residential	10.5	12.8	+21.9	+15.2	-5.5	+13.3	-7.0
Commercial	6.2	7.9	+27.4	+21.0	-5.1	+19.5	-6.3
Industrial	21.9	25.4	+16.0	+ 9.1	-5.9	+ 6.4	-8.3
Transportation	17.8	21.8	+22.5	+15.2	-6.0	+12.4	-8.3
Electric Conversion	13.1	19.8	+51.1	+42.0	-6.1	+38.2	-8.6
Nonenergy	3.7	5.7	+54.0	+48.6	-3.5	+45.9	-5.3
<b>Total</b>	<b>73.2</b>	<b>93.4</b>	<b>+27.6</b>	<b>+20.4</b>	<b>-5.7</b>	<b>+17.6</b>	<b>-7.8</b>

\* See *Primary Energy Costs, ibid.*

tTrends-Continue base case is based upon continuation of historic trends of energy consumption pre-October 1973 embargo and assumes no increase in real energy costs. This represents one of many possible U.S. energy futures that might have occurred if the oil import shortfall and rapidly increasing energy price situations of late 1973 and early 1974 had not occurred.

### Further Observations and Comments

The appraisals of the end-use sector task groups, as well as the data developed by the Patterns of Consumption/Energy Demand Task Group, when viewed individually or as a whole, suggest certain general comments relevant to the formulation of a national energy conservation program for the 1974-1978 time period. The following list of such general comments also includes reflections of the Consumer Task Group:

\* *Primary Energy Costs, ibid.*

- There will definitely be some reduction in demand as a result of higher energy costs, especially in those areas where costs are monitored closely--i.e., in *the industrial* and commercial sectors. In other sectors--e.g., private transportation and residential--the response will be slower and more dependent on programs educating the consumer in ways to accomplish energy conservation and monetary savings. Such programs should be sponsored both by government and industry.
- Widespread consumer response to energy conservation programs will only be elicited and sustained when there is a conviction that there is equity in the sharing not only of the "shortages" but also of the burdens of additional costs.
- In the short term and for an indefinite period, energy conservation must be considered an essential component of a national energy policy. On the other hand, the implication that energy conservation alone can overcome the supply/demand gap is unrealistic. Without the continued and accelerated development of domestic supplies of energy, the shortfall in energy supply within the United States will continue and grow.
- Recently proposed research and development programs, particularly within the public sector, concentrate on increasing energy supplies, and rightly so. However, there is also a need for a significant level of research and development effort on the end uses of energy and on more efficient ways of utilizing energy. A partial list of possible areas of inquiry would include land-use planning, housing types and consumer preferences, transportation modes and systems, and building codes and standards.
- Public policies in conflict with energy conservation should be re-examined. Such policies would include, but are not limited to:
  - Federal Power Commission regulation of interstate sales of natural gas
  - Some Interstate Commerce Commission regulations on transportation
  - Utility rate structure
  - Funding of highway systems in preference to mass transit
  - Building codes and regulations.
- Careful evaluation of the costs to public health and welfare and to the environment should be included in any consideration of relaxation in or deferral of environmental standards.

- The marketplace has long been the most efficient *allocator* of scarce supplies. While distortions are occasionally imposed upon the market by external events, such as the recent Arab oil embargo or government intervention, the system should be allowed to clear the inefficient uses of energy and should only be supplemented by public policy decisions when and if there are obvious and untenable inequities in the sharing of the burdens which may be involved.

## CONCLUSIONS

### National Goals and Policy--Energy and Conservation

Events in late 1973 and early 1974, as related to the energy posture of the United States, have again demonstrated the necessity for a national energy policy which must include balancing energy conservation and other national interests. Government has been active in many areas relating to energy policy; however, there is still no national energy policy interrelating the various government energy actions taken so far.

The development of a balanced national energy policy by the Federal Government, including conservation as a major component, remains urgent. Additional components of such a policy include the continued and accelerated development of domestic supplies, the formulation of realistic environmental clean-up objectives and the equitable and rational distribution of total energy costs. Such a policy must be balanced against the Nation's goals and policies relating to economic growth, full employment, social well-being and, to an increasing extent, foreign policy.

# Appendices





## United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

In Reply Refer To:  
AS-EM

July 23, 1973

Dear Mr. True:

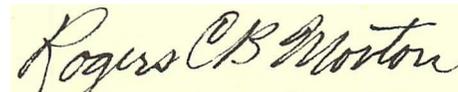
In his energy statement of June 29, the President announced additional steps being taken to conserve America's fuel supplies and their use, and called upon private industry to respond to the energy conservation directives with all the imagination and resourcefulness that has made this Nation the richest on earth.

In December 1972, the National Petroleum Council submitted to me a comprehensive summary report on "U.S. Energy Outlook," the supporting detailed task force reports being now received for each fuel as completed. The results of this exhaustive work done by the energy industries has been of major value to the Department and other agencies of Government, shedding considerable light on the U.S. fuel supply situation in particular.

In order to further assist us in assessing the patterns of future U.S. energy use, the National Petroleum Council is requested to conduct a study which would analyze and report on the possibilities for energy conservation in the United States and the impact of such measures on the future energy posture of the Nation.

You are requested to submit a progress report by January 1, 1974.

Sincerely yours,

  
Secretary of the Interior

Mr. H. A. True, Jr.  
Chairman  
National Petroleum Council  
1625 K Street, N. W.  
Washington, D. C. 20006



The following industry representatives have participated in this Energy Conservation Study.

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The following is a list of trade associations to whom the full report, *Potential for Energy Conservation in the United States: 1974-1978*, has been submitted for review and comment:

Air Transport Association of America

The Aluminum Association

American Boiler Manufacturers Association

American Iron and Steel Institute

American Paper Institute

American Society of Heating, Refrigerating and Airconditioning Engineers

American Trucking Associations, Inc.

Association of American Railroads

Grocery Manufacturers of America

Highway Users Federation

The Hydronics Institute

Manufacturing Chemists Association

Mechanical Contractors Association

Motor Vehicle Manufacturers Association

National Association of Home Builders of the United States

National Association of Motor Bus Owners

National Mineral Wool Insulation Association, Inc.

Petrochemical Energy Group



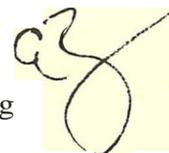
## FEDERAL ENERGY OFFICE

WASHINGTON, D.C. 20461

## Memorandum

Subject: Test-Case Price Assumptions for the Energy Conservation Committee Study by NPC

From: Eric R. Zausner  
Assistant Administrator  
Economic and Data Analysis and Strategic Planning



To: Mr. Vincent Brown  
National Petroleum Council  
1625 K Street, N. W.  
Washington, D. C. 20006

On February 11, 1974, I suggested that it would be appropriate for the Energy Conservation Committee to assume, for study purposes, a price for primary energy that rises to \$7.00 per barrel beginning January 1974 and remains constant in real (deflated) dollars until 1985. I also asked that other price-time functions be considered if time permits, and noted that further study within FEO might provide a more substantive basis for price projections.

I would like to restate the assumptions which are of most relevance and interest to FEO at the present time, given the analyses which are presently available. I believe that the extent of price-induced conservation can reasonably be bracketed by adding two cases to the gradual 100% price increase which was used in the NPC Interim Report. These cases consist of once-for-all increases, relative to 1970 prices, of 100% and 150% respectively, in primary energy prices as of January 1974, remaining steady in constant-dollar terms thereafter. Non-petroleum primary energy sources should have equivalent per-Btu prices. Delivered prices to consumers will be assumed to increase by about one-third this amount, as in earlier NPC work.

It should be clearly understood that this is not a forecast of prices, but a request by FEO for analysis of these two cases in addition to earlier trend projections. I trust you will also make it clear that the requested analysis does not include all the valid and cost-effective conservation which is possible, but only that conservation which might occur as new capital responds to private incentives from higher prices.



*Save Energy and You Serve America!*



